X15642.NatlPhase.ST25.txt
SEQUENCE LISTING

<110>   Richard Dennis DiMarchi
         David Lee Smiley
         Lianshan Zhang

<120>   MODIFIED GLUCAGON-LIKE PEPTIDE-1 ANALOGS

<130>   X-15642 National Phase

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<170>   PatentIn version 3.2

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Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
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Xaa Xaa Glu Gly Thr Xaa Thr Ser Asp Xaa Ser Xaa Xaa Xaa Glu Xaa
1               5                   10                  15


Gln Ala Xaa Lys Xaa Phe Ile Xaa Trp Leu Xaa Xaa Gly Xaa Xaa Xaa
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Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
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       penicillamine, NH2, or is absent

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       or is absent

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<223>  Xaa = Ser, His, Ser-NH2, His-NH2, L-Cys, D-Cys, homocysteine,
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1               5                   10                  15


Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Gly Pro Xaa
                20                  25                  30


Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
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Xaa Xaa Glu Gly Thr Xaa Thr Ser Asp Xaa Ser Xaa Xaa Xaa Glu Xaa
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Gln Ala Xaa Lys Xaa Phe Ile Xaa Trp Leu Xaa Lys Gly Arg Lys
            20                  25                  30


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1               5                   10                  15


Gln Ala Xaa Lys Glu Phe Ile Ala Trp Leu Xaa Lys Gly Arg Lys
            20                  25                  30


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Xaa Xaa Glu Gly Thr Xaa Thr Ser Asp Xaa Ser Xaa Xaa Xaa Glu Xaa
1               5                   10              15

Gln Ala Xaa Lys Xaa Phe Ile Xaa Trp Leu Xaa Xaa Gly Xaa Xaa Xaa
            20                  25              30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
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histidine, homohistidine, alpha-fluoromethyl-histidine, or
alpha-methyl-histidine

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1   5   10   15

Gln Ala Xaa Lys Glu Phe Ile Ala Trp Leu Xaa Xaa Gly Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40

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Gln Ala Xaa Lys Glu Phe Ile Ala Trp Leu Xaa Lys Gly Gly Pro Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40

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Gln Ala Xaa Lys Xaa Phe Ile Xaa Trp Leu Xaa Xaa Gly Xaa Xaa Xaa
            20                  25                  30


Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
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Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Gly Pro Xaa
            20                  25                  30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35                  40                  45
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<222>  (19)..(19)
<223>  Xaa = Ala, Val, Ile, or Leu

<220>
<221>  MISC_FEATURE
<222>  (21)..(21)
<223>  Xaa = Glu, Ile, or Ala

<220>
<221>  MISC_FEATURE
<222>  (24)..(24)
<223>  Xaa = Ala or Glu

<220>
<221>  MISC_FEATURE
<222>  (27)..(27)
<223>  Xaa = Val or Ile

<220>
<221>  MISC_FEATURE
<222>  (31)..(31)
<223>  Xaa = Gly, His, Lys, or NH2 or is absent

<400>  15

Xaa Xaa Glu Gly Thr Xaa Thr Ser Asp Xaa Ser Xaa Xaa Xaa Glu Xaa
1               5                   10                  15


Gln Ala Xaa Lys Xaa Phe Ile Xaa Trp Leu Xaa Lys Gly Arg Xaa
            20                  25                  30


<210>  16
<211>  31
<212>  PRT
<213>  Artificial

<220>
<223>  Synthetic construct

<400>  16

His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
1               5                   10                  15


Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly
            20                  25                  30


<210>  17
<211>  39
<212>  PRT
<213>  Artificial

<220>
<223>  Synthetic construct

<400>  17

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu
1               5                   10                  15


Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Gly Pro Ser
            20                  25                  30
```

Ser Gly Ala Pro Pro Pro Cys
          35

<210> 18
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Synthetic construct

<220>
<221> MOD_RES
<222> (39)..(39)
<223> 2,2'-dithiolbis(5-dinitropyridine) is attached to the thiol of
       Cys at position 39

<400> 18

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu
1   5   10   15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Gly Pro Ser
          20   25   30

Ser Gly Ala Pro Pro Pro Cys
          35

<210> 19
<211> 32
<212> PRT
<213> Artificial

<220>
<223> Synthetic construct

<400> 19

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu
1   5   10   15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Arg Gly Cys
          20   25   30

<210> 20
<211> 32
<212> PRT
<213> Artificial

<220>
<223> Synthetic construct

<220>
<221> MOD_RES
<222> (32)..(32)
<223> S-sulfonate (SSO3) is attached to the thiol of Cys at position 32

<400> 20

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu
1   5   10   15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Arg Gly Cys
                20   25   30

<210>   21
<211>   32
<212>   PRT
<213>   Artificial

<220>
<223>   Synthetic construct

<400>   21

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu
1   5   10   15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Arg Gly Lys
                20   25   30

<210>   22
<211>   32
<212>   PRT
<213>   Artificial

<220>
<223>   Synthetic construct

<220>
<221>   MOD_RES
<222>   .(32)..(32)
<223>   [3-(2-pyridyldithio)propanamide]amide is attached to Lys at
        position 32

<400>   22

His Val Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Glu
1   5   10   15

Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Ile Lys Gly Arg Gly Lys
                20   25   30

<210>   23
<211>   39
<212>   PRT
<213>   Heloderma suspectum

<220>
<221>   MISC_FEATURE
<222>   (1)..(39)
<223>   Exendin-3

<400>   23

His Ser Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Page 29

```
1              5              10            15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20              25              30

Ser Gly Ala Pro Pro Pro Ser
        35
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<210> 24
<211> 39
<212> PRT
<213> Heloderma suspectum

<220>
<221> MISC_FEATURE
<222> (1)..(39)
<223> Exendin-4

<400> 24

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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1              5              10            15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20              25              30

Ser Gly Ala Pro Pro Pro Ser
        35
```